

IN THE DRAWINGS:

In response to the Examiner's objections to the drawings, Applicant submits herewith Replacement Drawing Sheets, in order to attend to such objections.

Approval of the Replacement Drawing Sheets is respectfully requested.

REMARKS

This application has been carefully reviewed in light of the Office Action dated July 27, 2006. Claims 1 to 87 are pending in the application, with Claims 1, 16, 21, 33, 37, 42, 45, 59, 62, 84 and 86 having been amended. Claims 1, 16, 37, 45, 59, 84 and 86 are in independent form. Reconsideration and further examination are respectfully requested.

Claims 1 to 87 were rejected under 35 U.S.C. § 112, first paragraph, for allegedly failing to comply with the written description requirement. The expression of classifying the image “independently of a distance measure between the face and a capture device that recorded the digital image” has been removed from the claims. Reconsideration and withdrawal of this rejection are therefore respectfully requested.

Claims 1 to 87 were rejected under 35 U.S.C. § 112, second paragraph, for alleged indefiniteness. The expression of classifying the image “independently of a distance measure between the face and a capture device that recorded the digital image” has been removed from the claims. Reconsideration and withdrawal of this rejection are therefore respectfully requested.

The drawings were objected to under 37 CFR 1.83(a) for allegedly not showing every feature of the invention specified in the claims. The expression of classifying the image “independently of a distance measure between the face and a capture device that recorded the digital image” has been removed from the claims. Reconsideration and withdrawal of this objection is therefore respectfully requested.

In addition, objections were lodged against Figures 1A to 1G, 2A to 2C, 3A, 3B and 4A to 4E, with “PRIOR ART” legends being required. The Replacement Drawing

Sheets attached hereto are believed to attend to such objection. Reconsideration and withdrawal are respectfully requested.

Claims 1 to 4, 6, 7, 11 to 17, 24 to 26, 29 to 33, 37, 39, 41 to 45, 51 to 55, 59, 63 to 68 and 83 to 87 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 6,593,956 (Potts) in view of “A Statistical Approach to Scene Change Detection” (Sethi) and further in view of “Digital Document Metadata in Organizations: Roles, Analytical Approaches, and Future Research Directions” (Murphy); Claims 34 to 36 and 56 to 58 were rejected under 35 U.S.C. § 103(a) over Potts, Sethi and Murphy in view of U.S. Patent No. 6,324,545 (Morag); Claims 5/1, 5/2, 8/1, 8/2, 9/1, 9/2, 10/1, 10/2, 18/16, 18/17, 19/16, 19/17, 20/16, 20/17, 21/16, 21/17, 22/16, 22/17, 23/16, 23/17, 27, 28, 38, 40, 46 to 49, 50, 60 to 62 and 69 to 79 were rejected under 35 U.S.C. § 103(a) over Potts, Sethi and Murphy in view of “The ‘Grammar’ of Television and Film” (Chandler); and Claims 80 to 82 were rejected under 35 U.S.C. § 103(a) over Potts, Sethi, Murphy and Chandler in view of Morag. Reconsideration and withdrawal of these rejections are respectfully requested.

The present invention generally concerns automated classification of a digital image. According to one feature of the invention, the digital image is classified according to one of at least three shot types based on a relative size (or relative position) of a face (or predetermined object) with respect to the image (or image frame).

For example, page 8, lines 6 to 12 of the specification describes a representative embodiment in which a face is detected and, according to a rule which compares the size of the detected face to the overall size of the image, the particular image is then classified into one of three classes each corresponding to a particular shot type. Of

course, it should be noted that the scope of the claims is not limited to this representative embodiment and/or the details at page 8, lines 6 to 12 of the specification.

Referring specifically to the claims, independent Claim 1 as amended is directed to a method for automated classification of a digital image. The method includes the steps of analyzing the digital image for the presence of a human face, and determining a size of the located face with respect to a size of the image. The method also includes the steps of classifying the digital image according to one of at least three shot types based on the relative size of the face with respect to the image, and storing the classification of the digital image as metadata associated with the digital image.

Independent Claims 37 and 59 as amended are respectively directed to an apparatus and computer readable medium which are seen to generally correspond with Claim 1.

Independent Claim 16 as amended is directed to a method for automated classification of a digital image. The method includes the steps of analyzing the digital image for the presence of a human face, and determining a position of the located face with respect to a frame of the image. The method also includes the steps of classifying the digital image according to one of at least three shot types based on the relative position of the face with respect to the image frame, and storing the classification of the digital image as metadata associated with the digital image.

Independent Claim 45 as amended is directed to an apparatus which is seen to generally correspond with Claim 16.

Independent Claim 84 as amended is directed to a method for automated classification of a digital image. The method includes the steps of analyzing the digital

image for the presence of a predetermined object, and determining a size of the located predetermined object with respect to a size of the image. The method also includes the steps of classifying the digital image according to one of at least three shot types based on the relative size of the predetermined object with respect to the image, and storing the classification of the digital image as metadata associated with the digital image.

Independent Claim 86 as amended is directed to a method for automated classification of a digital image. The method includes the steps of analyzing the digital image for the presence of a predetermined object, and determining a position of the located predetermined object with respect to a frame of the image. The method also includes the steps of classifying the digital image according to one of at least three shot types based on the relative position of the predetermined object with respect to the image frame, and storing the classification of the digital image as metadata associated with digital image.

The applied art is not seen to disclose or to suggest the features of the invention of the subject application. In particular, Potts, Sethi, Murphy, Morag and Chandler are not seen to disclose or suggest at least the feature of classifying a digital image according to one of at least three shot types based on a relative size (or relative position) of a face (or predetermined object) with respect to the image (or image frame).

As understood by Applicant, Potts discloses that a video face location module 102 determines whether the size of the face segment corresponds to a default size of the image of a typical or preselected standard head given the camera range value. If the size of a face segment is less than the default image size at that range (or a scaled default image size at that range, such as 125% of the default image size), video face location module 102 determines that the face segment likely does not represent a face.

Additionally, if the proportions of a face segment are not within a range for a typical head (for example, width to height ratio of 1.5), video face location module 102 determines the face segment likely does not represent a face. See Potts, column 10, lines 40 to 52.

As such, Potts is seen to classify images either containing or not containing a face. Other than classifying the image as being a "face" image, no further classification is seen to be obtained from this analysis.

Since Potts is merely seen to classify based on a "face" or "non-face", Potts is not be seen to disclose classifying a digital image according to one of at least three shot types. Accordingly, Potts is not seen to disclose or suggest classifying a digital image according to one of at least three shot types based on a relative size (or relative position) of a face (or predetermined object) with respect to the image (or image frame).

Sethi is not seen to compensate for the deficiencies of Potts. Sethi is seen to disclose that in order to perform accurate shot boundary detection, the knowledge of the shot type is essential. In addition, Sethi is seen to disclose that shot type classification necessarily depends upon the distance between the camera and the subject being recorded, eg. a person, a house, or an automobile. See Sethi, page 4, paragraph 3.

Although Sethi may be seen to disclose that knowledge of the shot type is essential to perform shot boundary detection, nothing in Sethi is seen to disclose how determination of that classification is performed. Accordingly, Sethi is not seen to disclose or suggest that a digital image is classified according to one of at least three shot types based on a relative size (or relative position) of a face (or predetermined object) with respect to the image (or image frame).

In addition, Murphy, Morag and Chandler have been reviewed and are not seen to compensate for the deficiencies of Potts and Sethi.

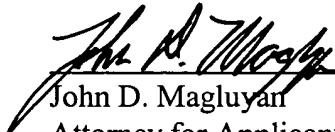
Accordingly, based on the foregoing amendments and remarks, independent Claims 1, 16, 37, 45, 59, 84 and 86 as amended are believed to be allowable over the applied references.

The other claims in the application are each dependent from the independent claims and are believed to be allowable over the applied references for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

No other matters being raised, it is believed that the entire application is fully in condition for allowance, and such action is courteously solicited.

Applicant's undersigned attorney may be reached in our Costa Mesa, CA office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,


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